

CLAIMS

1. A method of predicting a file download time, comprising:
periodically initiating a test probe from a server to a given point in a network;
collecting network performance data generated from the test probes;
5 computing an exponentially time-weighted average of the network performance
data; and
using the exponentially time-weighted average of the network performance data to
generate a value indicative of the file download time.

10 2. The method as described in Claim 1 wherein the test probe is a ping.

3. The method as described in Claim 1 wherein the network performance data
is latency.

15 4. The method as described in Claim 3 wherein the time-weighted average is
computed as:

$$AverageLatency = \sum_{i=0}^{\infty} lat \times e^{-t_i / C} .$$

20 5. The method as described in Claim 4 wherein the value is equal to the
following function:

$$average\ latency + \{ [max(100, average\ latency)] * (penalty\ factor) \} .$$

6. The method as described in Claim 1 wherein the network performance data
is packet loss.

25 7. The method as described in Claim 6 wherein the time-weighted average is
computed as:

$$AverageLoss = \sum_{i=0}^{\infty} loss \times e^{-t_i / C} .$$

8. A method of predicting a file download time, comprising:
periodically initiating a test probe from a server to a given point in a network;
collecting latency and packet loss data generated from the test probes;
using the data to compute an exponentially time-weighted average of latency and a

5 time-weighted average of loss as follows;

$$AverageLatency = \sum_{i=0}^{\infty} lat \times e^{-t_i/C}$$

$$AverageLoss = \sum_{i=0}^{\infty} loss \times e^{-t_i/C}$$

and;

generating a score indicative of the file download time, wherein the score is

10 substantially equal to:

average latency + {[max (constant, average latency)]*(penalty factor)},

where the penalty factor is a function of the time-weighted average of loss.

15 9. The method as described in Claim 8 wherein the penalty factor is modified according to a loss percentage.

10. A method of predicting a file download time, comprising:
periodically initiating a test probe from a server to a given point in a network;
collecting latency and packet loss data generated from the test probes;
using the data to compute an exponentially time-weighted average of latency and a

5 time-weighted average of loss; and

generating a value indicative of the file download time, wherein the value is a
function of the time-weighted average of latency modified by a penalty factor that is a
function of the time-weighted average of loss.

11. A method of predicting a file download time, comprising:
periodically initiating a test probe from a server to a given point in a network;
collecting latency and packet loss data generated from the test probes;
using the data to compute an exponentially time-weighted average of latency and a
time-weighted average of loss; and
generating a value indicative of the file download time, wherein the value is a
function of the time-weighted average of latency modified by a penalty factor that is a
function of the time-weighted average of loss.